



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Takeyoshi KANO, et al.

Group Art Unit: 1752

Application No. 10/828,472

Examiner: Richard L. Shilling

Filed: April 21, 2004

For: PATTERN FORMING METHOD, IMAGE FORMING METHOD,
FINE PARTICLE ADSORPTION PATTERN FORMING METHOD,
CONDUCTIVE PATTERN FORMING METHOD,
PATTERN FORMING MATERIAL AND PLANOGRAPHIC PRINTING
PLATE

DECLARATION UNDER 37 C.F.R. §1.132

Honorable Commissioner of Patents and Trademarks

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

I, Takeyoshi KANO, hereby declare and state that:

I am a citizen of Japan;

I received a Master's degree in Engineering in Applied Science from
Osaka University in March 2001;

I have been employed by Fuji Photo Film Co., Ltd. (currently

FUJIFILM CORPORATION) since April 2001, where I have been engaged in the research and development of micro particle integration and conductive layers using surface graft technique;

I am an inventor of the subject matter disclosed and claimed in the above identified application; and

I am familiar with the Office Action of February 20, 2007, and understand that the Examiner has rejected Claims 1-9 under 35 U.S.C. §102(b), or in the alternative, under 35 U.S.C. §103(a), as being unpatentable over EP 1088679, Kawamura et al. '583 (US 2002/0106583, hereinafter referred to as "Kawamura et al. '583") and Zhang et al. (US 5,889,073, hereinafter referred to as "Zhang et al.").

The following additional experiments were carried out by me or under my supervision.

EXPERIMENTS

Comparative Example

Preparation of Conductive Pattern Material of Comparative Example

A polyethylene terephthalate film having a film thickness of 0.188 mm (trade name: M4100 manufactured by Toyobo Co., Ltd.) was used as a support, and a photopolymerization composition described below was coated on the surface using a rod bar No. 18, followed by drying at 80°C for 2 minutes, to form a polymerization initiation layer.

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To the support on which the polymerization initiation layer has been formed, exposure was carried for 10 minutes by using a 400 W high pressure mercury lamp (UVL-400P manufactured by Ricoh Science Industry Co.) and then heat was applied, to pre-harden the layer.

(Polymerization initiation layer coating liquid)

· Acryl methacrylate/methacrylic acid copolymer	2 g
(copolymerization mole ratio 80/20, average molecular weight 100,000)	
· Ethylene oxide modified bisphenol A diacrylate	4 g
(trade name: IR125, manufactured by Wako Pure Chemical Industries, Ltd.)	
· 1-hydroxy cyclohexyl phenyl ketone	1.6 g
· 1-methoxy-2-propanol	16 g

Using the support having the polymerization initiation layer which has been pre-hardened, a support onto which tertiary butyl acrylate was graft polymerized was obtained in a similar manner as in Example 18 of the present specification. Thereafter, the coating solution 3 was applied, exposure was carried out for 1 minute by using a 1 kW high pressure mercury lamp, and heating was carried out at 90°C for 2 minutes. Thus, a hydrophilic/hydrophobic pattern material was obtained.

Using the hydrophilic/hydrophobic pattern material thus obtained, a conductive pattern material was obtained in a similar manner as in Example 18 of the present specification.

Evaluation

The surface of the conductive pattern material of the Comparative Example was rubbed reciprocally 30 times by hand using a cloth (BEMCOT manufactured by Asahi Chemical Industry Co., Ltd.) wetted with water. After the rubbing, peeling-off of silver was observed.

CONCLUSION

Comparing the Examples of the present invention in the present specification and the Comparative Example shown above, it is clearly shown that the polymerization initiation layer of the present invention has an effect for improving adhesiveness. The present invention shows unexpectedly superior effects.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date: 2007. 6. 6.

Takeyoshi Kano
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